

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Frac Sand Exploration LUL
Proposed Implementation Date:	October, 2011
Proponent:	Silica Mining Inc.
Location:	Section 36, Township 8 South – Range 10 West
County:	Beaverhead County, MT

I. TYPE AND PURPOSE OF ACTION

The proposal is to pull a drill rig over 990 feet of state land using a corridor 10 feet wide with a D-5 dozer to reach deeded property to do mining exploration. This would alleviate the building of an additional 1/4 mile of new road on steep slopes. The building of this road would create the potential of falling rocks reaching the I-15 interstate highway. Pulling the drill rig up the ridge on state land would alleviate the problem of falling rocks but would have potential short term impacts to the State Land.

The location where the drill rig would enter and leave state land has been staked with wood stakes and the route that the drill rig would use has also been marked.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

The following people were scoped for this project;

BLM, Dillon Field Office
Rob Thomas, UM Western Faculty Member
Beaverhead County Commissioners
Peter and Victoria Tomaryn, Grasshopper Creek LLC
Windmill Ranch, Tom Rice
Craig Fager, MT Fish Wildlife and Parks Wildlife Biologist

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

No other government Agencies were contacted for this project.

3. ALTERNATIVES CONSIDERED:

- A. No Action Alternative, Deny Silica Mining Inc. the right to cross state land with their drill rig to reach deeded property.
- B. Action Alternative, Allow Silica Mining Inc. the right to pull a drill rig with a D-5 dozer across State DNRC lands to access deeded property with a drill rig.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

The NRCS soil survey for Beaverhead County describes the soil where this proposal is located as Rock Outcrop 40%, Metlen, rubbly-spudbar 20%, extremely bouldery complex 15%, and other minor components 25%. The soils at the surface of where the disturbance will take place are covered with cobbles, stones and boulders. The soils below the cobble to 17 inches in depth are gravelly loamy fine sand. According to Rob Thomas, geologist with UM Western, the geology of "Daly's Spur" is unique. It's the only place in this region where the Quadrant Formation is sandstone and displays large-scale cross bedding from wind-blown deposition. The place where the proposal is located does not have fragile, compactable, or unstable soils. The current vegetation on site is grass with a few scattered sagebrush plants. This proposal should have no long term or cumulative impacts to the soils in this area.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

The NRCS identifies the depth to the water table at this location being approximately 80 inches. There is no surface water located near the proposal. The area is approximately 1/2 mile from the Beaverhead River with plenty of filtration zone between the proposal and the river, including the I-15 interstate highway. No long term or cumulative effects to water quality are anticipated from this proposal.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

This proposal will not produce any long term or cumulative impacts to air quality.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

A NRIS search was conducted on this proposal and no sensitive plant species were identified. Because of the amount of rock, and shallow soils in the area there isn't a lot of vegetation present along the proposed route. If disturbance does occur however, the dominant grass species present in this area include *Agropyron spicatum* (Bluebunch Wheatgrass), *Stipa comata* (Needle and Thread grass), and *Poa secunda* (Sandberg Bluegrass) can be re-seeded if excessive disturbance occurs. No long term or cumulative impacts are anticipated to the vegetation in the area.

Rob Thomas Geology Professor from UM Western in Dillon commented that there are a number of Bitterroot Flowers that bloom along the ridge that the drill rig would be pulled up. He is concerned that pulling the drill rig with a tracked machine would disturb the soil and damage these plants. Bitterroots however are not identified as a sensitive species and are plentiful in Montana. The ground disturbance should be light and no long term effects to the plants are anticipated.

The Beaverhead County Commissioners along with Windmill Ranch commented that this project would require the proponent to file and have approved a Noxious Weed Management Plan. The plan should include a bond based on \$150/ acre fee to be held for a three to five year period.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

Because the proposal is located along the I-15 corridor the area is not considered critical habitat for wildlife, or birds. The site has occasional use from mule deer, small mammals and birds. It is considered winter range by the MT FWP but due to the location it doesn't have sustained use during the winter months. The disturbance to the site will be minimal and the duration of use will be scattered over a short period of time. No long term or cumulative effects are anticipated.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

There are three species of concern that are located in the area of the proposal; Great Blue Heron, Ferruginous Hawk, and Great Basin Pocket Mouse.

Great Blue Heron, **Ardea herodias** have been identified as using this area. The general habitat for this bird is riparian forest. The Beaverhead River is located within ½ mile of this proposal and is where the herons spend the majority of their time. The location of the proposal is not critical habitat for great Blue Herons and this proposal will not have any significant long term or cumulative effects on the bird.

Ferruginous Hawk, **Buteo regalis** are present and use the proposal area. However the hawks are highly mobile and the amount of disturbance associated with this proposal is minimal. The duration of this license is for 1 year. During the period that the trail would be used the hawk would probably not use the site, however no long term or cumulative effects are anticipated.

Great Basin Pocket Mouse **Perognathus parvus** were observed in the area in 1961 and are listed as a sensitive species by the, BLM and Forest Service. The NRIS search revealed that the mouse survives in an area estimated at 2,560 acres, the proposal will affect an area of approximately 0.22 of an acre. The overall impact on the mouse from this proposal should be quite small and no long term or cumulative impacts are expected.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

- 1) A previously recorded cultural resource (a cairn of uncertain age) is located at the highest point in the SWSW1/4 of Section 36, T8S R10W. This cairn is approximately 70 m southwest of the proposed drill rig haul route and will not be visually or physically impacted with work proposed;
- 2) The area within the SWSW1/4 of Section 36, T8S R10W from the 5700-5760 ft ASL contours contains a thinly distributed lithic scatter (chipped stone items). Because these cultural materials are limited in kinds, quantities, and contextual integrity (the soils at the site are thin and rocky). The lithic scatter does not meet the criteria of a state Heritage Property. Although the drill rig may be hauled across the surface of a portion of the lithic scatter area, there is no potential for adverse effects to state heritage properties;
- 3) A possible stone circle is located very near the drill rig haul route near the eastern extreme of the 5,700 ft contour line in the SWSW1/4 of Section 36, T8S R10W. Because the sediments on which the possible stone circle is situated are thin and rocky, there is little potential for the stone circle to contain

- temporally or culturally definable materials. The drill rig may be hauled immediately outside the margin of the possible stone circle, but there is no potential for adverse effects to state heritage properties;
- 4) A limited amount of fossilized wood is thinly distributed across the state tract. Because these materials do not meet the definition of an Antiquity under the State Antiquities Act, there will be no adverse effects to scientifically significant fossil resources if a drill rig is hauled across a portion of the state parcel in the W1/2W1/2 of Section 36, T8S R10W.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

This proposal is part of a larger mining project that is planned for the area. The proponent is considering whether there is enough quality and quantity of frac sand available to develop a mining site, and is drilling test holes to help make this determination. To access the furthest test hole to the south he would like to cross state land with his drill rig to reach his deeded property. The proponent has already built a ¼ mile of road on steep rocky terrain which is visible from the I-15 interstate highway south of Dillon, MT. Granting the permit will reduce the additional amount of road that will need to be built to reach the site.

If the proponent determines that there isn't enough sand to make the mining project worthwhile granting this permit could reduce the impact to aesthetics by reducing the total amount of road that is constructed on the hillside. If however the mining project moves forward as planned the area will become an open cut mine on the hillside and the aesthetics of having additional road on the hillside would become insignificant.

There also are safety concerns associated with building any additional road at the current location. Further excavation to the south poses the risk of falling rocks rolling down the steep side hill and ending up on the freeway. By not building the road and granting this license it would help alleviate this concern, and would do less damage to the aesthetics in this area if the mine is never developed.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

No cumulative impacts to environmental resources of land, water, air or energy are anticipated from the approval of this proposal. The site is used by UM Western geology department as well as geology departments of other Universities that visit Dillon during summer field camp season. These geology departments use the site to teach students how to map formations and teach students about geologic formations. This proposal could cause some conflict if the drilling would occur when the students are in the field at the location. The application did not list an actual time frame for use of the license other than that they wanted a year to complete the use of the state land.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

As mentioned above in #11 Aesthetics, this proposal is part of a bigger plan to eventually develop a frac sand mine in the area. If the mine would move forward the proponent would need to obtain an open cut permit from the MT DEQ and would also need to work with the Montana Department of Transportation on any possible safety concerns to drivers on the I-15 Freeway from falling rocks.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

The granting of this license could reduce the possibility of rocks falling on to the Freeway if the road was built all the way to the south drill site. There aren't any guarantees however that pulling the drill rig up the ridge with a D-5 dozer won't dislodge a rock that could reach the freeway and cause a safety concern. After visiting the site the possibility of this happening is small due to the topography of the location that was flagged out by the proponent. Any rocks that were dislodged would either fall to the west away from the freeway or are on a flat ridge and would not roll and reach the freeway.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

Granting of the license should have no effects on agricultural activities or production on state land. The site is leased to Peter and Victoria Tomaryn, Grasshopper Creek LLC (74 acres) and has not been grazed in some time. The lessee was contacted about this proposal but we did not receive any comments from them.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Granting the license would provide only a short and non-sustained increase in the amount of employment in Beaverhead County.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

There would be no impacts on local and state tax bases due to this project.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services.

This proposal will not increase the demand for government services to this site.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

I am unaware of any other State or County plans for this area.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

Granting this license will not affect recreational activities in the area. The BLM has an access road to the south of this location that accesses a large block of public land but his proposal would have no impacts on that roads use.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

This proposal will not have any affects on population or housing in the area.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

N.A.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

The Daly's Spur has unique geologic features and is the only site like it in Southwestern Montana. The site is used by many geologic field camps each summer as a mapping area and a place to measure stratigraphic section across the Paleozoic- Mesozoic boundaries. This proposal although associated with the possible mining of the hillside does not ruin the uniqueness of the area and will only have a minimal impact to the site. If the mine is never developed, the use of the ridge on state land will disappear in a short period of time and will not affect use by geology students.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

This license as proposed would generate \$ for short term use of 990 feet of state land.

EA Checklist Prepared By:	Name: Timothy Egan	Date: 10/13/2011
	Title: Dillon Unit Manager	

V. FINDING

25. ALTERNATIVE SELECTED:

I have selected the action alternative to allow Silica Mining Inc. the right to pull a drill rig with a D-5 dozer across State DNRC lands to access deeded property and conduct exploratory drilling.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

Significant impacts are not expected to occur as a result of issuing a license allowing the dozer to cross state land. Any impacts associated with the activity will be minor and temporary. No unique or critical resources will be impacted.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

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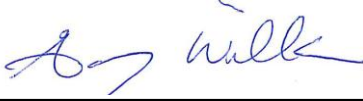
EIS

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More Detailed EA

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No Further Analysis

EA Checklist Approved By:	Name:	Garry Williams
	Title:	Area Manager Central Land Office
Signature: 		Date: 10/14/11